

Magic Quadrant for Robotic Process Automation Software

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As organizations look for ways to improve operational efficiency and integrate legacy systems with new enterprise applications and digital business, robotic process automation continues to grow its footprint. Here, we examine these market forces and the leading enterprise vendors for such software.

Market Definition/Description

This document was revised on 8 July 2019. The document you are viewing is the corrected version. For more information, see the [Corrections \(http://www.gartner.com/technology/about/policies/current_corrections.jsp\)](http://www.gartner.com/technology/about/policies/current_corrections.jsp) page on gartner.com.

Robotic process automation (RPA) is a digital enablement technology that predominantly leverages a combination of user interface (UI) and surface-level features to create scripts that automate routine, predictable data transcription work.

RPA tools link applications, eliminating keying errors, speeding up processes and cutting costs. As a market, RPA is still relatively small, with a total revenue of slightly less than \$850 million in 2018. However, RPA is the fastest-growing software subsegment officially tracked by Gartner, with year-over-year growth of more than 63% in 2018.

RPA has effectively bypassed the traditional IT buyer, appealing directly to business users, with its emphasis on resource reduction, easy efficiency and accessibility of the scripting environments. During the years, businesses have paid for an expensive patchwork quilt of applications and systems. Given the rapid evolution of the prevailing business climate, business executives are finding it increasingly difficult to understand why they need to wait for IT to integrate their existing technology solutions. The net result is a tremendous pent-

up demand to democratize process automation and data integration. Business executives are lining up to sponsor new RPA initiatives directly within their functions.

The buying tornado that has ensued is driving up the valuations of the biggest vendors and causing new players to rush into the market. This market growth is in stark contrast to the more traditional, but related, workflow and broader process automation tools, such as intelligent business process management suites (iBPMSs). The challenge with these products was always the perceived level of skill required to successfully integrate third-party applications. Although still a significantly larger market, iBPMS has struggled to penetrate the broader business consciousness.

The technology trajectory has evolved from screen-scraping technologies many decades ago; however, RPA emerged as a marketing term around 2010. Unlike traditional screen scraping, RPA tools typically interact with the metadata that drive modern applications at the UI level. RPA has continued to evolve and develop as it helps organizations to:

- **Move data in or out of third-party application systems.** Often referred to as “unattended” RPA, the emphasis here is on straight-through task automation. Scripts are designed to replicate the actions of a person interacting with those systems or documents, which, typically, do not have effective APIs. Each iteration takes a second or two to deal with a discrete element of data, rather than many data items together in batch mode. At relevant points, the RPA tool substitutes credentials required by those external systems and data for the item of work. The same sort of approach can also support large-scale data migration, using carefully structured scripts to extract from a set of data sources and systems for a new target system. With some tools, it’s possible to embed these integrations directly into third-party applications using APIs.
- **Augment employees’ capabilities.** Referred to as “attended” automation, RPA tools can extract information from systems and related documents, shaping it and preparing it for consumption by the worker at the point of need. For example, when interacting with customers or external stakeholders, employees often require data from many systems. The employee typically accesses multiple systems and may also need to interact with other colleagues, each of whom also has systems to deal with. This can take a long time and affect the customer experience significantly. Ultimately, this sort of functionality can enable customers to interact directly with systems via chatbots.

With that sort of scope, there are a great many opportunities for RPA tools to deliver significant value to enterprises struggling to leverage a patchwork quilt of existing systems. At the core, they help organizations unlock the data and value associated with their historical technology investments.

Key Misconceptions, Challenges and Developments Surrounding RPA

Of course, there are different sorts of challenges and common misconceptions to overcome if organizations are to maximize the value they get from RPA. Organizations must recognize that:

- **Integration features are not “robots” or a “digital/intelligent workforce.”** RPA involves developing integration scripts that get information in and out of other systems. These are easy to build; however, they are not equivalent to humans, who can interpret and adapt as needed. Customers should not confuse in their minds the cost of an employee and the cost of a set of integration scripts. The claimed head count reduction rarely happens, because employees are normally refocused toward more value-adding work.
- **RPA does not easily automate long-running processes.** The term “long running” refers to a wider work item or customer case. The term “process” in the RPA acronym is more accurately discrete “task” automation. Most automations supported by RPA tools last, at most, a couple of seconds. Furthermore, at best, the process support aspect of these products is limited to simplistic workflow. For long-running processes, you need an iBPMS. In fact, many of the products combine with iBPMS environments to support longer-running business processes.
- **RPA tools are just one element of the integration and DigitalOps automation toolbox.** Rather than competing with iBPMS products, RPA tools complement these more broadly targeted process automation tools. Other elements of that tool box include process mining to quickly identify existing processes, integration platform as a service (iPaaS) platforms for more-robust, API-based integrations, low-code application development platforms and content extraction capabilities found in optical character recognition (OCR).
- **RPA automations create long-term technical debt, rather than overcoming it.** RPA customers are buying technical debt without realizing it. The organization is effectively chaining itself to the UIs of the past. Some of the tools have mechanisms to alleviate this, allowing the automation to handle simple changes in the target application. Organizations must manually track the systems, screens and fields that each automation touches in each third-party application, if they want to predict the impact of a third-party system change. Most products support this critical need very poorly.

The next challenge revolves around separating the reality from the hype surrounding artificial intelligence (AI), machine learning and so-called cognitive capabilities – in terms of the genesis of the RPA market, and its ongoing development. The key area in which machine learning has enabled a major step forward in RPA is a type of computer vision, used to recognize a submit button for example.

Secondly, machine learning has enabled breakthroughs in several, related “add-on” areas that are tangential to the core of RPA. These include:

- OCR to recognize text, and intelligent character recognition (ICR) to interpret handwriting.
- Augmented content analytics that uses machine learning to identify the position of fields on documents such as customer invoices.
- Natural language processing (NLP) and natural language generation (NLG), which can help support chatbot integration and virtual personal assistants (VPAs).
- Automated business process/task discovery, which can help organizations identify processes and task patterns that could be automated by RPA or an iBPMS.

Depending on their focus and history, RPA vendors have developed their own machine learning approaches, often based on open-source libraries, or they have leveraged capabilities sourced from the megavendors, such as Amazon, Google, IBM and Microsoft. However, despite the claims of some of the RPA vendors, there are only limited opportunities to use machine learning in the core of RPA itself. Certainly, automation tools – such as those from RPA or iBPMS vendors – can provide a framework within which you can apply machine learning algorithms to your business process problem, but that is not AI in RPA per se.

Given the rapid growth in the market, we have seen a great deal of investment activity in the leading vendors. The three vendors in the Leaders quadrant have a combined market valuation of slightly more than \$11 billion at the time of writing. We also expect to see further acquisitions, with many of the megavendors buying up the small RPA players. With this level of volatility in the vendor landscape, buyers should be wary of committing to long-term sales contracts. The actual switching costs of RPA software is relatively low, compared with major enterprise application systems.

This Magic Quadrant focuses on the providers of RPA products and not service providers that leverage RPA capabilities licensed from another vendor. Although the vendors may offer cloud-based services, the vendors included must be deployable on-premises.

Magic Quadrant

Figure 1. Magic Quadrant for Robotic Process Automation Software







Vendor Strengths and Cautions

Another Monday

Another Monday appears in the Visionaries quadrant with a product that has evolved from its automation consulting engagements. Another Monday's product is based on an ecosystem of software agents that deliver the important characteristics of long-term stability and scalability. Another Monday reports a workforce of 125 employees and is based in Cologne, Germany. This analysis pertains to AM Ensemble Version 1.2.21, containing AM Conductor, AM Composer, AM Recorder and AM Monitor.

Strengths

- **Governance:** Another Monday's visionary offering considers RPA an enterprisewide platform focused on sustainable value and governance of bots. This vision is reflected in Another Monday's roadmap, which includes the monitoring and control of third-party bots.
- **Innovation/Architecture:** Another Monday's platform introduces a client-centric, lightweight architecture with a decentralized execution model in which no central application is required to run, manage and deploy a robot. Combined with encryption features and a separate messaging layer, these architectural principles are in stark contrast to the relatively tactical task automation focus of most competitors in the RPA market.
- **Pricing:** At the heart of the Another Monday's RPA ecosystem approach is a focus on completed transactions, which carries over into a simple pricing model. Another Monday applies a "pay per use" or "no cure, no pay" pricing model, with micropayments per successful transaction.

Cautions

- **Geographic Strategy:** Although Another Monday recently launched offices in the U.S., it is still a small player that sells mainly into the German-speaking region of Europe (Germany, Austria and Switzerland [DACH]) and neighboring countries. It has little market recognition outside this region. Companies considering Another Monday should investigate the availability of implementation partners.
- **Overall Viability:** Although its product is innovative, Another Monday's go-to-market model is constrained by its choice to grow organically. Another Monday recently took some external investment that should allow it to expand its market presence and accelerate its planned innovations. However, this should be put into context against the recent funding rounds of other, larger competitors. Given the explosive growth of the RPA market and the broader resource base of its larger competitors, Another Monday may still struggle to effectively scale its business operations.
- **Product Offering Strategy:** Given the relatively unusual, distributed architecture and decentralized execution of Another Monday's product, prospective customers should be careful when making direct comparisons with other RPA offerings. Furthermore, customers will need to think carefully about alignment with existing architectural patterns in use. Another Monday is unlikely to be your RPA choice if you are searching for a stand-alone, personal RPA tool that largely automates tasks supported by common productivity tools (e.g., email and spreadsheets).

AntWorks

AntWorks appears in the Niche Players quadrant. The company stresses its background in AI, machine learning and related techniques to create differentiation. AntWorks is headquartered in Singapore and reports a workforce of 266 employees, with more than half of that in product development. This analysis pertains to ANTstein Version "Triangle" 3.1.

Strengths

- **Marketing Strategy:** AntWorks asserts a proprietary approach to a machine learning engine, natural language modeling and a data capture engine to support its vision of RPA. At the core of this is what AntWorks call "fractal science," which it uses to support image recognition and pattern recognition, rather than neural networks. Its assertion is that its recognition techniques need less data to detect patterns, delivering faster and more accurate results for characteristics such as OCR.
- **Product Offering Strategy:** The AntWorks platform is built around the concept of reusable services. Customers can choose any or all of the modules in the ANTstein integrated enterprise automation platform. AntWorks provides accelerator templates for verticals

such as banking and capital markets, insurance, CPG and retail, healthcare and life sciences, high-tech and telecom, media and entertainment, transport and logistics. It also provides similar functional accelerators for HR and finance functions.

- **Marketing Strategy:** AntWorks is aggressively building a marketing organization that focuses on its claimed cognitive capabilities in combination with broader automation needs. The company stresses that enterprisewide orchestration of process automation requires clean data and is more than the tactical, task-based RPA offerings that proliferate in the market.

Cautions

- **Product:** AntWorks is a new player and has a developing roadmap designed to plug some of the gaps in its RPA offering, when compared with other vendors in our assessment. For example, the product has limited introspection features and a restricted set of underlying integration capabilities. Customers should validate that the product meets their full needs.
- **Marketing Execution:** Given the vendor's narrative around cognitive, AI and machine learning, one would expect AntWorks to have effectively demonstrated these claimed capabilities. Its narrative extends quickly to enabling automations themselves to become "intelligent" beyond "scripts on computers." However, demonstrations were limited to simple script building. Moreover, the vendor failed to show effective support for at least two of our three RPA use cases.
- **Sales Execution:** For a relatively small company, AntWorks has an ambitious go-to-market strategy. Based on a relatively limited number of clients, Antworks has attempted to cover eight different vertical industries. We would advise customers to first validate the effectiveness and applicability of the provided accelerators and templates, checking for the ability to match internal requirements.

Automation Anywhere

Automation Anywhere appears in the Leaders quadrant and is focused exclusively on the RPA market, with a relatively well-developed partner ecosystem and strong investor backing. Automation Anywhere is also one of the most visible players in the RPA domain, setting the tone through extensive marketing and customer engagement efforts. Automation Anywhere is based in San Jose, California, with more than 1,200 employees as of December 2018, and approximately one-quarter in product development. This evaluation is based on Automation Anywhere Enterprise (AAE) version 11.3, IQ Bot 6 and the Bot Store.

Strengths

- **Innovation:** Automation Anywhere has a strong innovation profile and has demonstrated innovation through the growth of its partner ecosystem. Automation Anywhere uses the ecosystem to fill out broader functionality for its customers, with extended benefits for partners and customers delivered through its Bot Store. This is complemented by internally funded innovations, such as the IQ Bot.
- **Product:** At the product level, AAE includes a wide array of integration components that users can string together to create automation scripts. There are also preintegrated components that allow Automation Anywhere to provide extensions to its product with effective functionality accessible from within the product. For example, customers can link through to IBM's business process management (BPM) tooling, or they can leverage their relationship with Celonis for process mining. A scalable architecture is also provided to enable customers to dynamically spin up additional resources as required.
- **Customer Experience:** Client references cite ease of use, customer support and flexibility. Automation Anywhere has many enterprise clients (approximately 1,600). Its market achievements are driven by resources dedicated to ensuring that larger customers have successful implementations.

Cautions

- **Product:** Automation Anywhere's marketing message emphasizes that its product is accessible to business people. In common with other platforms that cover such a broad spectrum, script developers need to work with a vast array of components – each of which can require specialized configuration. Therefore, to produce sophisticated automations, developers usually require a wide understanding of the product. Although Automation Anywhere has recently announced a development environment that adapts to the persona and competency of the user, it was released after the cutoff date for this evaluation.
- **Customer Experience:** Some client references cite restrictive product-licensing terms, poor product dashboards and inadequate support for troubleshooting, when errors arise. Moreover, compared with some vendors in this assessment, customers cite limitations in such areas as source code management and the sophistication of the screen recorders. Other references also asked for stronger online training materials.
- **Marketing Execution:** Gartner customers exploring Automation Anywhere as an RPA option often cite a lack of transparency on pricing information, and a lack of clarity around product direction and the underlying product functionality. Although AI is a cornerstone of the marketing message, its use is limited to an on-screen computer vision and extracting data from unstructured sources, such as emails, documents and chatbot conversations, via its IQ Bot functionality.

AutomationEdge

AutomationEdge appears in the Niche Players quadrant. In addition to more-general use cases, it has a specialized focus on IT process automation, such as components for extraction, transformation and loading (ETL). It provides a cloud-based RPA-as-a-service offering, along with an on-premises RPA model. The company is based in Pune, India, and it has 75 employees as of the time of evaluation. This analysis is based on AutomationEdge Version 5.

Strengths

- **Marketing Strategy:** AutomationEdge focuses on finance, IT service management (ITSM) and data operations. For a small vendor, AutomationEdge has built a strong partner and customer ecosystem, with out-of-the-box connectors available for leading mainframe, ERP and CRM platforms, as well as partnering with leading ITSM providers, such as BMC, ServiceNow and Cherwell.
- **Sales Execution/Pricing:** AutomationEdge offers RPA as a service through a subscription-based model. Its different annual subscription plans, with multiple price tiers, provide viable choices for price-conscious customers that prefer RPA software as a service (SaaS), but want to avoid complex usage-based models.
- **Vertical/Industry Strategy:** AutomationEdge provides a marketplace with more than 400 prebuilt bots developed by customers and partners. These bots are targeted toward common business functions across verticals such as banking, finance, insurance, government and IT. In addition to these ready-made bot solutions, AutomationEdge has leveraged machine learning models to provide intelligent support desk operations, managing customer retention and case management scenarios.

Cautions

- **Overall Viability:** Although AutomationEdge has customers across a wider set of industries, its primary focus is on banking, finance, insurance and IT. It is one of the smaller vendors in our assessment and is challenged on multiple fronts to compete effectively and scale operations.
- **Product:** As is common in relatively small vendors, some reference customers cited usability issues with core capabilities in areas such as system setup, administration and the control room.
- **Product:** Reference customers also cited AutomationEdge's lack of partnership with other AI providers to bring in more capabilities in addition to its own embedded machine learning features. They pointed to opportunities to improve the range of options available to address different AI use cases, such as fraud detection, sentiment analysis and the handling of unstructured data.

Blue Prism

Blue Prism appear in our Leaders quadrant and is based in Warrington, U.K., with slightly fewer than 500 employees at the time of this analysis, approximately half of which are focused on business development and sales. It was one of the first vendors to describe RPA as a “market” having realized the broad potential of task automation at the UI level. From the beginning, it has focused on supporting enterprisewide deployment, balancing the democratization of automation development with the governance tooling needed for long-term success. This analysis pertains to Blue Prism Version 6.4.

Strengths

- **Product Offering Strategy:** Blue Prism has focused on supporting the needs of IT in scaling RPA initiatives. This is reflected in the configuration of “objects” to manage the interaction and the interfaces to external applications that help customers drive reuse and more easily support changes in those systems. These objects become components in individual process automations, with work items moved between shared queues. All of this is developed using Blue Prism’s graphical, Visio-based development environment, complemented by tools to better support the IT organization in managing the overall environment.
- **Marketing Execution:** Blue Prism has developed a strong implementation, technology and consulting partner ecosystem. Blue Prism invites partners to create applications that extend and augment the core platform with capabilities such as decision management, advanced analytics, unstructured data support and process mining.
- **Vertical/Industry Strategy:** Blue Prism has a strong verticalization strategy with industry-focused experts, campaigns, website navigation and partners. This has resulted in 42 industry solutions, representing at least 10 customers in each of these industries.

Cautions

- **Product Offering Strategy:** Blue Prism focuses on centralized control of unattended – i.e., uninterruptable – automation, rather than attended automation. To counter this issue, Blue Prism has built-in integrations with complementary BPM products from partners such as Appian, Bizagi and TrustPortal. This is a challenge for organizations that need to include human interactions in their process automation efforts, because they need to license third-party products. Blue Prism has described “human-assisted automation” features as a part of its roadmap. Blue Prism also rejects the notion of a “recorder” to build automations. However, other vendors have successfully shown how screen recorders can capture initial process outlines.
- **Sales Execution:** Although Blue Prism has in-house resources for business development, sales and advisory/assurance, the vendor relies heavily on partners for sales support and implementation. Reference clients and other Gartner inquiries cite concerns about

the company's responsiveness to requests for information. This suggests that Blue Prism has historically struggled with service and support processes, compared with competitors that have invested heavily in these areas.

- **Customer Experience:** Several clients in our reference survey mentioned that Blue Prism needs to improve aspects such as the central monitoring function (the Control Room), scheduling, reporting and operational efficiency in large-scale deployments. These areas lacked the ease of use and enterprise level functionality of other components in Blue Prism's platform.

Datamatics

Datamatics appears in the Niche Players quadrant. It is based in Mumbai, India, with slightly fewer than 250 people dedicated to RPA. The Datamatics TruBot product is an RPA tool that develops and runs C# scripts. It was initially developed to support Datamatics customer engagements and is now sold as a stand-alone RPA tool. This analysis covers Datamatics TruBot Version 3.0.0.

Strengths

- **Vertical/Industry Strategy:** Datamatics' go-to-market model leverages existing customer engagements — particularly in the banking, financial services and insurance arenas — especially where it has also deployed its proprietary TruOCR tooling and machine learning capabilities. The emphasis is on cross-selling to these engagements, while Datamatics ramps up its partner engagement activities.
- **Product Offering Strategy:** Datamatics has integrated its own RPA and OCR capabilities, which provide a relatively good starting point for conversations with customers. This contrasts with most other vendors, which require customers to license separate OCR products. Datamatics licenses its TruOCR tool separately, as well as bundled with TruBot.
- **Product:** The control panel — TruBot Cockpit — module has a relatively modern, web-based UI. The Windows recorder element — TruBot Designer — incorporates functionality to create scripts that interact with web, desktop, mainframe and Citrix systems. The product captures interactions with third-party applications using these recorders, which are then modified for more generic use and converted into a C# script. Customers accustomed to manually developing their own automation scripts will find this easier to use.

Cautions

- **Marketing Execution:** Datamatics is not widely known in the RPA marketplace and has limited distribution and sales support for worldwide coverage. Historically, most customers were acquired through the system integration aspect of its business and have a local presence in the Asia/Pacific (APAC) region. Datamatics also failed to effectively demonstrate support for one of the key use

cases identified in this research. Despite the success of its system integrator (SI) and business process outsourcing (BPO) businesses, the question remains whether Datamatics can focus on the RPA market and scale its product operations. Given its small starting point and the resources available to competitors, it will struggle without major investment.

- **Customer Experience:** As is common in relatively small vendors, some reference customers cited usability issues with the dashboard, limited control mechanisms and breadth of integration functionality, as well as challenges in configurability and change management. None of the reference customers indicated that they were using the current version of the product.
- **Product:** The tool is relatively simple, compared with other products in the market. Variables are all manually created in each integration. The desktop tool packages up the scripts and related elements in a project, but then relies on the file system to control those artifacts during deployment. Where developers feel the need, they can drop into C# coding, which may make things easier for them, but will break the model-driven nature of the development environment.

EdgeVerve Systems

EdgeVerve Systems appears in the Challengers quadrant. As a wholly owned subsidiary of Infosys, EdgeVerve can access major client relationships with many primary buyers of RPA in more than 50 countries. Alongside its RPA product, AssistEdge Robotic Process Automation, the company also delivers Infosys Nia – a set of components focused on machine learning and AI. Based in Bengaluru, India, EdgeVerve has approximately 700 employees at the time of this research, with most in professional services roles. This analysis is based on AssistEdge RPA Version 17, and the AssistEdge Smart User Environment (SE) Version 17. All components are licensed and priced separately.

Strengths

- **Product:** EdgeVerve have a modern graphical user interface (GUI) and leading capabilities around maintaining a repository of widely deployed bots across a major enterprise. Clients cite ease of use at the product level, and consider it secure, scalable and resilient – with strong management information and control dashboards.
- **Product Offering Strategy:** EdgeVerve has a relatively strong vision for AI and machine learning. It exhibits a mature and nuanced understanding of the opportunities in the RPA market; however, it needs to articulate how this narrative is realized through integration with the related Infosys Nia product.

- **Sales Strategy:** In line with the parent company’s philosophy of targeting the needs of major corporations, EdgeVerve’s engagement model is designed to leverage the existing SI and outsourcing relationships of Infosys. That provides a quick advantage and positions EdgeVerve well to grow its business at the expense of the incumbent leaders in this market.

Cautions

- **Market Strategy:** Although the ownership and contacts of Infosys are a boon for direct customer engagement, they also inhibit the capabilities of EdgeVerve in striking effective partnership deals. Many of those that might become partners are also direct competitors to Infosys. Sooner or later, that which enables the initial scaling of the organization will become a constraint.
- **Marketing Execution:** An overemphasis on internally sourced consulting resources has negatively affected the vendor ratings from customers. This manifests in comments such as “The dependency on Infosys resources to program in AssistEdge is too high” and “The learning curve for developers outside of EdgeVerve is too high.”
- **Product Offering Strategy:** Although the AssistEdge product is supposed to be complemented by the Infosys Nia machine learning capability, none of the references had used any of the machine learning, NLP or other AI capabilities claimed. Although the marketing materials contain a compelling narrative, the boundaries between the products were not clear. EdgeVerve also needs to demonstrate how these capabilities can successfully work together.

HelpSystems

HelpSystems appears in the Niche Players quadrant. Based in Minneapolis, Minnesota, HelpSystems provides a variety of IT management products alongside its RPA offering. It has established a significant client base and has around 750 employees, of which just under 40 focus exclusively on RPA. With significant traction for RPA in banking, finance and healthcare, HelpSystems sets out to provide an affordable RPA offering to enterprise and midmarket customers. This review is based on HelpSystems’ Automate Enterprise Version 11.1.10.

Strengths

- **Customer Experience:** HelpSystems received above-average ratings for overall customer experience in Gartner’s customer reference survey, with most citing ease of installation and initial configurations. Customers also cited that the product consistently supports the basic functions of RPA, such as task automation, UI interaction and administration.

- **Sales Execution/Pricing:** HelpSystems' pricing model is affordable to customers who can't justify investment into more expensive enterprise-level RPA solutions. Licensing is oriented around traditional software-licensing models (rather than somehow substituting for a notional full-time equivalent human worker). This has enabled customers to find better value in its RPA product than those of larger, more established RPA competitors.
- **Product Usability:** Reference customers of HelpSystems cited the product's "easy to integrate" feature equipped with a library of predefined actions and connectors. They also commended its business-user-friendly editor and good dashboard for performance overview.

Cautions

- **Product:** The version of HelpSystems' RPA product that we assessed fails to leverage machine learning and NLP, and it only provides minimal OCR functionality. Although this is on the roadmap for 2019, many RPA competitors are aggressively investing in these areas. HelpSystems will need to accelerate its developments in these areas to remain competitive.
- **Product:** Reference customers cited the RPA product's usability issues around some common RPA features, such as easy integration with password vaults, the ability to develop personal task templates and monitoring.
- **Geographic Strategy:** HelpSystems needs to ramp up its operations and market presence within and beyond the U.S. and European geographies. Although its customer relationships in the system management arena give it a good starting point for the future, without significant investment, HelpSystems will face significant challenges in the race to scale its RPA offering to support global enterprises.

Jacada

Jacada appears in the Niche Players quadrant. It is based in Israel with 120 employees, of which slightly fewer than 50 are focused on RPA. Jacada's focus on attended automation grew out of its 30-year history in customer service operations. Jacada points to higher customer transaction volumes in front-office operations as against the general back-office processes targeted by most of the RPA vendors. This review is based on Jacada Integration and Automation (JIA) Version 3.0, Repository Builder v.3.0 and Interact v.10.

Strengths

- **Marketing Strategy:** Jacada focuses on contact center automation through its Customer Service RPA offering. Jacada helps customers leverage attended automation to assist users where there are no APIs to integrate disparate systems on the desktop or offer self-service customer interactions.
- **Pricing:** Jacada focuses on selling RPA as a service with a clearly defined, usage-based pricing model providing customers options to implement RPA without taking on long-term commitments.
- **Customer Experience:** Some reference customers cited above-average service with Jacada's project team proactively solving customer issues. They referred to strong project execution support from Jacada resources delivering RPA projects, including multiple integrations.

Cautions

- **Business Model:** Unlike most other RPA vendors, Jacada does not depend on the broader SI partner ecosystem. The company provides professional services to assist customers with initial setup, development and deployment of automations. Although some reference customers surveyed by Gartner cited this as a strength, others identified a lack of technical expertise and project management skill sets as contributing to their project delays.
- **Geographic Strategy:** Jacada's support coverage was also cited as a challenge for many of its reference customers. This will continue unless the vendor expands its geographic footprint and ramps up its operations.
- **Product:** Some of the reference customers cited challenges with the basic features of Jacada's RPA platform, such as the development environment, ease of setup, process orchestration, product usability and dashboards. A new version of the product was released just after the cut-off date for this Magic Quadrant. Potential customers should validate whether the overall usability and capabilities of development environment meet their needs.

Kofax

Kofax appears in the Niche Players quadrant. It has a big opportunity to grow, based on its large, established base of client relationships and extensive partner ecosystem for its Kofax Capture products. Moreover, with its other assets such as the Kofax TotalAgility (KTA) BPM platform, as well as machine learning and analysis tools, Kofax is well-positioned to deliver on the promise of end-to-end automation. Kofax is based in Irvine, California, with approximately 650 employees dedicated to RPA at the time of this

research. Our analysis is primarily based on Kofax RPA (formerly Kofax Kapow) Version 10.3, although we also considered capabilities from KTA and the document capture OCR products.

Strengths

- **Product:** Kofax RPA has a fundamentally different approach to virtual desktop integration. RoboServers ingest the UI into a centrally managed container that emulates the application without needing to run a remote desktop on an agent desktop. This lowers the cost of the associated infrastructure. Kofax RPA also leverages a rich legacy in document and image capture, as well as delivering native OCR capabilities. For many customers, it is less expensive to buy a bundled Kofax RPA and OCR solution than an alternative RPA product that then requires separate OCR licensing.
- **Product:** Kofax RPA can enable direct consumption of any automation via a Representational State Transfer/Simple Object Access Protocol (REST/SOAP) interface. This means customers can embed its automation capabilities in third-party applications, without having to worry about “scheduling” via a control panel as is common in other products. Along with a solid graphical process-modeling environment that reuses existing “snippets,” Kofax RPA has strong support for structured data types and data objects across multiple automations. Each automation can have a set of data types (with embedded variables), and/or a private set of data variables. These features provide customers with a solid foundation for the easy reuse of automations and compares well with other leading products.
- **Marketing Strategy:** The large number of customers for its image capture products provides a major market opportunity for the introduction of Kofax RPA. Kofax also has developed strong internal capabilities around helping customers establish RPA centers of excellence (COEs) to implement Kofax RPA tooling. This foothold provides a solid basis for growth and expansion.

Cautions

- **Customer Experience:** Kofax had below-average scores in our customer reference survey. Enhancing product support is a clear opportunity for Kofax, based on the feedback of its customers. Customers highlighted the need to improve customer and partner communication, as well as internal communication across Kofax operations. Kofax also needs to focus attention on its underlying operational support processes and practices. Some customers commented that they were unaware of new product releases until months after they had been made available.
- **Marketing Execution:** Kofax has focused on cross-selling existing Kofax customers to use the Kofax RPA technology; however, to some extent, this has been at the expense of growing the capabilities of its partner ecosystem. Kofax needs to numerically increase

its partner ecosystem and help all partners grow their own implementation and consulting skills.

- **Product:** Customer references cited limited innovation and a disparate portfolio of loosely integrated products. Virtually all references made it clear that their use of the product did not cover several of the areas we asked about. Beyond document capture, the use of machine learning and NLP is limited. Customers should validate that the vendor can effectively support their business needs.

Kryon

Kryon appears in the Niche Players quadrant. It is based in Tel Aviv, Israel, with fewer than 100 employees at the time of this assessment. Kryon has support for attended and unattended RPA, with a strong differentiation around automated discovery of task work patterns in processes. This analysis pertains to Kryon RPA Platform v.5.25.1 and Kryon Process Discovery.

Strengths

- **Product:** Alongside its core Kryon RPA Platform, the vendor has strong capabilities around process/task discovery. In that context, it uses machine learning to derive sophisticated task descriptions based on captured keystrokes, mouse clicks, data inputs and outputs of business users. This discovery-oriented tooling provides visibility and insight into how tasks are completed, the result of which is then used to configure the automation of those tasks.
- **Sales Execution:** Kryon has successfully built relationships with a range of large customers across industry to support employees in their daily work (mostly attended automation), where exception handling is critical. The company has also deployed its technology to solve some unusual problems in areas such shipping, and the logistics industry.
- **Overall Viability:** Kryon recently took a further round of investment that should enable it to expand its market presence and accelerate its planned innovations. This should be put into context against the recent funding rounds of other larger competitors. Kryon's strong vision includes creating a bot exchange marketplace, better employee productivity analysis, predictive and preventive analytics, and in-product communication to streamline collaboration and coordinate RPA implementations.

Cautions

- **Customer Experience:** Some reference clients located in other time zones cited poor customer support. Kryon has ameliorated this problem to some extent through the recent introduction of 24/7 support, which went live in 2019.

- **Marketing Execution:** The language used by Kryon around “process discovery” can confuse potential customers looking for “process mining.” The intention of Kryon Process Discovery is to find processes and tasks to automate with RPA. On the other hand, process mining solves a different problem – the identification of long-running business processes that are typically automated with an iBPMS (which may require RPA integration to support discrete tasks or activities). These are subtly different, but complementary, concepts. Communicating that nuance requires carefully worded language.
- **Product:** Kryon lags the market in some product areas, such the lack of a web-based modeling tool – Kryon Studio is a Windows-native product. Although runtime deployment can operate in cloud-based environments, at the time of the research, there was no public cloud offering. It also has limited introspection capabilities, other than those based on a surface-level integration of HTML.

NICE

NICE is positioned in the Challengers quadrant. NICE is a software technology provider of workforce engagement management (WEM) solutions for customer service applications, case management and employee engagement. It is based in Hoboken, New Jersey, with approximately 350 employees dedicated to RPA (not including Tier 1 and Tier 2 support, which are split across products). Its RPA offering augments its WEM capabilities, with an emphasis on attended RPA. This analysis is based on the NICE Advanced Process Automation v.7 suite, which includes NICE Robotic Automation, NICE Desktop Automation and NICE Desktop Analytics.

Strengths

- **Customer Experience:** Several reference customers cited above-average customer support and good relationship management. NICE also offers a simple, flexible, all-inclusive pricing model, with the options of perpetual licensing or subscription models. Most of the customers rated NICE’s pricing model and ease of contract negotiation highly. Moreover, NICE Advanced Process Automation is offered on-premises and as SaaS, as well as public and private cloud options. This provides customers with a good deal of flexibility and choice.
- **Marketing Strategy:** NICE’s go-to-market strategy targets large-enterprise customers – organizations with more than 1,000 employees and more than \$1 billion in revenue. This leverages its strong global footprint with direct support in 25 countries. NICE Advanced Process Automation also includes specialized attended bots to augment its workforce management functionality across a range of vertical industries, including finance, banking, telecom and manufacturing.
- **Product:** NICE Advanced Process Automation includes an embedded conversational agent, known as NICE Employee Virtual Attendant (NEVA). NEVA delivers process/task discovery and predictive analytics. From an AI perspective, NICE has several built-in

capabilities, including real-time speech guidance, NLP-based text analytics and unsupervised machine learning.

Cautions

- **Operations:** Although some references gave good customer experience scores, others described it as not providing a cohesive customer service experience, with “disconnected” operational units. For example, many cited a clear disconnect between frontline customer support and technical services teams.
- **Product:** Although NICE has focused on building AI and task/process discovery features, some reference customers complained that basic product features did not meet their needs in areas such as easy initial configuration, security and resilience. Customers cited overall complexity of development as a key factor driving the need for professional services and resulting in increases in total cost of ownership (TCO). Almost all the reference customers complained about difficulties in debugging and error handling.
- **Marketing Execution:** NICE will need to move beyond its core focus on attended RPA and front-office operations. This multifaceted challenge demands that the company build an ecosystem of partners and customers that will allow NICE to compete effectively with larger RPA providers. For long-term success, NICE must to enhance its online search presence and grow brand recognition, as well as strengthen its efforts around building an effective user community.

NTT

NTT is positioned in the Niche Players quadrant. NTT’s RPA product was developed by NTT Group (through the holding company’s labs), NTT Advanced Technology (NTT-AT) and NTT DATA. NTT-AT and NTT DATA are now responsible for ongoing development and go to market. NTT Group is based in Tokyo, Japan, with more than 280,000 employees. It does not break out the number of employees focused on RPA. This analysis involves WinActor v.5.2, a personal-client-based RPA tool; WinActor Manager v.1.0, an administrative web-based tool; and WinDirector v.1.5, a Windows-based administrative tool.

Strengths

- **Product:** NTT differentiates its WinActor product as one of the simplest RPA tools to use in the market. A simple, drag-and-drop, graphical modeling tool enables users to record their actions, creating the basis for these automations, which can then be enhanced through grouping and looping constructs. Although the tool can incorporate enterprise applications and interaction with websites, it is best-suited to the automation of stand-alone, PC-based tools.

- **Overall Viability:** NTT-AT has strong backing from its parent company NTT, allowing it to develop a pervasive market presence in the Japanese market for this sort of personal knowledge worker RPA tool. Although limited in scope, this is an extremely fast-growing market. Furthermore, NTT provides Japanese, Chinese and English language support for the product itself, manuals and support services.
- **Sales Execution/Pricing:** NTT provides its technology for a relatively low-cost annual license fee. Bulk purchase options are available for enterprises. A consumption-based pricing model is on the product roadmap.

Cautions

- **Offering Strategy:** NTT targets an enterprise RPA market with a tool that's primarily focused on automating repetitive tasks that use common office productivity tools, such as email and spreadsheets. The emphasis is on support for individuals and their desktop tasks, rather than the centralized governance and a scalable server architecture needed for enterprise applications and long-running processes. Customers looking for an enterprise-grade RPA solution should satisfy themselves that the NTT product meets their needs.
- **Product:** NTT still has considerable gaps in its offering, compared with other vendors in this research. In comparison to other offerings, there is poor scalability, limited master data functionality, very basic integration and limited AI. Although the WinDirector tool uses a database to store information that it then uses to control/coordinate WinActor resources, deployment is still predominantly file-based. NTT recently started to support the cloud, and, during this assessment, it released a cloud-based administrator tool. However, there is no publicly available cloud service.
- **Geographic Strategy:** Almost all clients of NTT are based in the APAC region. Prospective customers outside the APAC region should investigate local product support and local implementation partners.

Pegasystems

Pegasystems appears in the Visionaries quadrant. It offers RPA as a stand-alone product, as well as a feature of its enterprise iBPMS product. They are delivered on-premises and in the cloud through its Pegasystems Infinity offering. Instead of seeing RPA as only a stand-alone product, Pegasystems is in a good position to gain from its long-term vision of integrating RPA tightly with its BPM suite and related CRM applications. Pegasystems has slightly more than 4,300 employees, but does not break out the number dedicated to RPA. This analysis is based on Pega Robotic Automation v.8.0.1086.

Strengths

- **Marketing Strategy:** Pegasystems' long-term view of RPA as a subset of a broader BPM strategy resonates well with customers that have a DigitalOps mindset focused on digital transformation, rather than optimization. Pegasystems offers a stand-alone RPA option for task automation, as well as a complement to its iBPMS product – Pega Infinity – for longer-running process choreography and business rule capabilities. As an established player in the iBPMS market and a growing presence in CRM, Pegasystems has a relatively large customer base to accelerate the adoption of its RPA product.
- **Product:** The strength of the Pegasystems robotics platform lies in its ability to augment traditional integration mechanisms to source data for the core object model of the Pega Infinity iBPMS platform. That data can then leverage its longer-running process and decision management capabilities, while making use of its native machine learning and AI capabilities.
- **Geographic Strategy:** Pegasystems has global reach, with worldwide offices and a well-structured ecosystem to spread its brand, technologies and practices. These ecosystem programs include a broad array of implementation partners with strong business and vertical industry capabilities.

Cautions

- **Business Model:** Pegasystems' product focus for RPA is on attended RPA, rather than the fully automated focus of unattended RPA products. Although Pegasystems supports unattended automation through the direct insertion of code into third-party applications, long-running process support is better provided by Pegasystems' core iBPMS product. Therefore, a singular focus on Pegasystems RPA tooling may not align with your organization's needs for broader process automation. This may necessitate a larger investment in the core iBPMS platform.
- **Customer Experience:** Based on customer reference reviews and Gartner inquiry, many customers have had challenges in RPA implementations, combined with inadequate customer support for the RPA functionality. Pegasystems claims a "unified" BPM and robotics platform, but the customers we surveyed point to issues such as independent releases, where the latest versions of RPA tooling work poorly with the latest version of the iBPMS platform. These references also maintain that support is 100% separate, and obtaining an action plan for enhancements has been unattainable.
- **Sales Execution/Pricing:** Pegasystems' pricing and contract models are complex. Although the RPA product is available stand-alone, the offering is usually bundled with its core Pega Infinity platform at a relatively small markup, based on the cost of that iBPMS

platform. The emerging consumption-based pricing model – of its Pega Infinity platform – has created confusion among prospects who are often unclear about the long-term TCO. Customers surveyed also cite costly limitations to the licensing of the RPA software.

ServiceTrace

ServiceTrace appears in the Niche Players quadrant. It has focused its offering on delivering a secure end-to-end environment in which unattended and attended automations can run at scale. ServiceTrace is based in Darmstadt, Germany, with approximately 75 employees at the time of this analysis. This evaluation is based on the ServiceTrace XceleratorOne (X1) RPA platform v.5.0.1.

Strengths

- **Product:** The ServiceTrace product delivers a secure environment within which to run automations. The X1 Server dynamically provisions any number of parallel X1 Bots that run as a Windows service. These services execute either on a user's desktop or are completely hidden in the background. The entire environment – from a clustered server all the way to execution of target automations on target machines – is secured through strong encryption. For customers focused on operating highly secure, scalable environments, this a key differentiating factor.
- **Product:** ServiceTrace bundles an embedded BPM engine (based on Camunda), which enables a flexible approach to the longer-running business processes, rather than limiting the scope to short-term tasks. This engine also imports standard business process model and notation (BPMN) 2.0 XML process definitions. Although this sounds innocuous, that BPM environment enables ServiceTrace to effectively manage the overall collaboration and deployment life cycle; it also facilitates direct process-mining capabilities delivered by another vendor in the ecosystem.
- **Customer Experience:** ServiceTrace customers were highly supportive of the vendor. Some of its reference customers also selected this product over larger and more-well-established RPA competitors.

Cautions

- **Geographic Strategy:** ServiceTrace is well-established in the German-speaking (DACH) region of Europe. Outside of that, the organization works with partners, but has no other direct office presence. Compared with larger and more established competitors, ServiceTrace has limited ability to directly engage with, and offer support to, customers and partners. To compete long term, scaling to address the needs of the wider market, ServiceTrace will probably need external funding; otherwise, it will struggle to keep up with larger competitors.

- **Customer Experience:** As with other similarly sized vendors, there are aspects of overall customer experience that need improvement. In our reference survey, customers were asking for some form of forum to share best practices and tips and tricks. It seems Servicetrace was listening, because it has since created suitable engagement initiatives. Local technology support was also cited as important to customers. Outside the DACH region, this is delivered through partners. Therefore, customers outside this area will need to satisfy themselves of the capabilities of the local partners.
- **Product:** Although there is some discussion of AI and machine learning in its response, there is no clear narrative about how this technology is employed in the product, or the value it delivers to customers. Rather than developing their own AI/machine learning componentry, via the Camunda BPM engine, Servicetrace has sensibly opted for integration with third-party AI/machine learning platforms from the major cloud vendors.

Softomotive

Softomotive appears in the Niche Players quadrant. It is based in London, U.K., with approximately 160 employees at the time of this research. The Softomotive RPA platform consists of two different tools, ProcessRobot and WinAutomation. ProcessRobot is the enterprise-level environment that supports distributed architecture and central management of RPA implementations. WinAutomation is a stand-alone, self-contained RPA tool designed for rapid deployment. This evaluation pertains to ProcessRobot v.2018.1.2 and WinAutomation v.8.0.

Strengths

- **Product:** Softomotive's product was designed from the ground up to scale vertically and horizontally. The development environment uses a modern UI that supports drag and drop, in-line recording, comprehensive testing and exception handling, along with effective reuse mechanisms at the data level. The ProcessRobot Control Desk application also includes native functionality to control deployment, test for error-free execution and manage concurrency policies.
- **Market Understanding:** Softomotive has a relatively well-developed market understanding and market engagement strategy underpinned by a comprehensive RPA market survey undertaken in the latter stages of 2018. This has helped it deliver differentiated messaging to key RPA user types/personas and is now further informing its product strategy and overall direction.
- **Overall Viability:** With a recent funding round, Softomotive moved its headquarters from Greece to the U.K., and it has significantly grown its international presence. The organization is now relatively well-positioned for further growth internationally, with a solid product and capable components. Of course, this should be put into context against other larger competitors' recent funding rounds.

Cautions

- **Business Model:** Historically, Softomotive focused on the small to midsize business (SMB) sector. The organization now has a “People1st” strategy designed enable the organization to become the market leader in the underserved midmarket segment, and to help large enterprises accelerate the deployment of RPA. Although the recent funding round will make it easier to engage large enterprises, Softomotive’s ability to resource direct customer interactions at this level may limit its growth.
- **Customer Experience:** Softomotive recently moved its headquarters, and it is still establishing some aspects that affect customers. In our customer reference survey, customers cited the need for improvement in training and the service provider network, and the creation of a community/forum to share best practices. Others cited the need for better efficiency in implementation support. Although these sorts of things are in hand, they are not as well-developed as those of some of the larger, more established competitors.
- **Product:** Softomotive’s UI supports drag and drop, making it appeal to citizen developers for simple automations. However, as is common for most RPA tools, sophisticated automations and scale require a rigorous and highly structured design approach, which demands more expert developers. Customers also cited the need for better OCR capabilities in the product.

UiPath

UiPath is positioned in the Leaders quadrant. It has a strong partner ecosystem, active investor backing, focused brand building and a loyal customer base. The company is headquartered in New York City, with approximately 1,900 employees distributed worldwide. This evaluation is based on UiPath v2018.3.1 and UiPath Go!

Strengths

- **Marketing Strategy:** UiPath’s well-structured partner ecosystem includes more than 100 technology partners that offer complementary technology and tools. This enables it to support integrations with major products and applications covering BPM, process mining and AI. The company has penetrated a wide variety of industries and has representation in 19 countries. In our customer reference survey, almost all customers cited UiPath’s product performance, financial viability and strong product roadmap as the top factors influencing their purchasing decisions.
- **Product:** UiPath’s RPA platform provides an intuitive user experience across a range of RPA personas, including business users, citizen developers and seasoned IT developers. It has relatively strong security, resilience and integration options.

- **Customer Experience:** In our customer reference survey, users gave UiPath mostly above-average scores across almost all dimensions of customer satisfaction. Customer references cited strong integration features, security and resilience capabilities. UiPath also looks to drive customer success by encouraging users to collaborate and solve problems through its UiPath RPA Academy, its Community Forum and Slack Community channel. Across these engagement mechanisms, more than 30,000 active users have developed more than 200 reusable components.

Cautions

- **Product:** Although UiPath has a goal of creating a user-friendly tool for business and tech-savvy developers, some of Gartner's reference customers had challenges with its orchestrator and dashboard experience. Customers cited that the dashboard features are not purely low-code/no-code. In many cases, even though the product collected the data, customers had to develop their own representations of that information.
- **Product Offering Strategy:** UiPath lags on its cloud strategy. As of the 2018.3 release, UiPath's Cloud Enterprise RPA offering had not rolled out, although UiPath operates a hosted cloud for its community users and enterprises conducting POCs and pilots. UiPath plans to roll out its RPA cloud version in 2019, and it had existing customers deployed at the time of this research. It is still unproven, compared with other vendors with established cloud offerings.
- **Customer Experience:** Despite UiPath's narrative around AI/machine learning, NLP and chatbot integration, customers cite the product's lack of maturity in the AI space. In many cases, customers expected an easy-to-consume, plug-and-play machine learning feature. However, they found they had to build/enhance their machine learning models more than they expected. Many customers cited lack of direct API connectors when integrating with major ERP and CRM platforms.

WorkFusion

WorkFusion appears in the Visionaries quadrant. This reflects its roots in machine learning and AI research. It is based in New York City, with just under 300 employees at the time of this research. Leveraging its patented Process AutoML technology, WorkFusion seeks to democratize machine learning for business people by eliminating the time-consuming and costly data science work associated with cleansing data, training models and validating automated work. This review relates to WorkFusion Intelligent Automation 2018 ("Lumen" release), which incorporates RPA Express and enterprise-focused Smart Process Automation (SPA).

Strengths

- **Product:** WorkFusion employs a sophisticated machine learning capability in support of RPA objectives. In comparison with the other products we reviewed, WorkFusion showed superior capabilities and vision with regard to how AI and machine learning can be used in the context of RPA.
- **Product:** An integrated BPM canvas allows developers to coordinate RPAs, with clear looping and machine learning elements. Analytics are strong with the ability to drill down into individual cases and identify the causes of errors that are affecting machine learning and process execution.
- **Offering Strategy:** The vendor offers clear and simple pricing information with different rates for tooling that incorporates integrated machine learning versus straightforward RPA. Having proved its business model and go-to-market strategy, the vendor is in a good position to aggressively scale its operations.

Cautions

- **Marketing Execution:** The challenge for WorkFusion is to now win the race to scale. Although the vendor has a strong product, its limited sales and marketing resources, compared with its bigger rivals, will affect its ability to service customers worldwide. It must invest heavily to compete here and develop meaningful international operations, including better localized support outside the U.S.
- **Product:** By default, automations that require humans in the loop must also use the WorkFusion portal environment to track and execute tasks. The vendor should put more emphasis on preintegrated components that bridge to broader BPM environments, rather than assuming customers will want to use WorkFusion to support the entire spectrum of their process automation needs.
- **Geographic Strategy:** Customers outside North America and Europe, such as those in Latin America and the APAC region, will need to check the availability of effective local guidance and support. WorkFusion will need to focus on its partner development activities to overcome its own resource constraints.

Vendors Added and Dropped

This is the first year for this Magic Quadrant, so this is not relevant.

Inclusion and Exclusion Criteria

The inclusion criteria represent the specific attributes that analysts believe are necessary for inclusion in this research. Vendors need to satisfy the following inclusion criteria:

- Providers must have 2017 audited/reported annual tool licensing revenue of more than \$8 million per year. Or have more than \$5 million during the first half of 2018 in audited/reported tool licensing revenue. Or appear in the vendors considered section by at least 10% of Gartner Peer Insight review in this market.
- Independent software vendors (ISVs) must have tools positioned to address the market for RPA tools (using Gartner's definition of RPA). Such tools must address all three common use cases, as well as possess all the core capabilities and most of the critical capabilities (see the Market Definition/Description section of this research).
- Vendors must have active customers buying RPA tools during the past 12 months in at least two major global regions, which are defined as Europe, the Middle East and Africa (EMEA); the APAC region; North America; and South America.
- Vendors must permit Gartner to acquire survey data from 10 customers. These customers should represent production deployments of the product version shown in the vendor briefings and in customer production for at least three months. Similarly, the product version on which the questionnaire response and the use case demos are based must have been generally available to all customers for purchase since 1 December 2018.

Honorable Mentions

The following vendors are not included in this research, because they do not meet one or more of the inclusion criteria. Some of them were, however, included in the reference survey, are appropriate for certain situations and, sometimes, compete against the vendors covered in this Magic Quadrant:

- Cognizant HPA
- Contextor – recently acquired by SAP (November 2018)
- EnableSoft – recently acquired by Nintex (March 2019)
- Epiance
- Jidoka

- LEAPWORK
- Makeitright
- OpenConnect
- Option3
- Qruize
- Thoughtonomy
- Verint

Evaluation Criteria

Vendors in Magic Quadrants are evaluated on two axes: Ability to Execute and Completeness of Vision. These relate to their performance in 2018 and their vision for the following years. Vendors are scored according to the Gartner methodology for Magic Quadrants, and these scores define each vendor's position. Vendors are invited to provide the data for the evaluation criteria via questionnaires and briefings; however, evaluations also include the results of Gartner customer surveys and analyst information from client inquiries.

We evaluated the capabilities of the vendors' products separately with an exhaustive analysis of their functionality. Subcriteria used were based on the Critical Capabilities of the tools. They include:

- **Automation development:** How users would go about developing automations.
- **Integration features:** The scope and features of the product's out-of-the-box integration.
- **Control panel/dashboard:** How the environment is monitored and controlled.
- **Component/script library:** Mechanisms for reuse and management over time.
- **Impact of changes made to integrated applications:** Features provided to handle changes in the environment.

- **Resilience and error recovery:** Overall integrity of the environment and how it handled errors.
- **Security:** The features that helped secure the environment, including credentials, data security and access control.

In assessing the capabilities of the product, we also asked vendors to describe separately their support for areas that are often associated with, but are not central to, our definition of RPA, including:

- **AI, machine learning and NLP:** How the tools leveraged AI technologies, covering how they were implemented, and the value that was delivered to organizations as a result.
- **Business rules and process automation:** Any support for wider business process automation and/or business rules.
- **OCR:** How documents are assessed and the technologies that support this need.

Ability to Execute

Gartner analysts evaluate technology providers on the quality and efficacy of the processes, systems, methods or procedures that enable performance that is competitive, efficient and effective, positively affecting revenue, retention and reputation. Ultimately, technology providers are judged on their ability and success in capitalizing on their vision. Table 1 shows the ability to execute criteria.

Table 1: Ability to Execute Evaluation Criteria

Evaluation Criteria ↓	Weighting ↓
Product or Service	High
Overall Viability	High
Sales Execution/Pricing	High
Market Responsiveness/Record	Medium

Evaluation Criteria ↓	Weighting ↓
Marketing Execution	Low
Customer Experience	Medium
Operations	High

Source: Gartner (July 2019)

Several factors contribute to the vendors' positions on the Ability to Execute axis:

- Because this market includes several small or midsize vendors with highly variable functionality and uncertain futures, financial viability was an important factor. In support of that, a key factor was whether the vendor had sufficient investment capital to allow it to scale effectively. Organic growth is valued more highly than growth by other means, including growth by acquisition or by securing additional funding.
- We evaluated the vendors' ability to attract and grow new business, and the way that their marketing narrative translated into features that mattered to customers. This includes responsiveness in sales engagement, deal management, pricing and negotiation, presales support and the overall effectiveness of the sales channel.
- We judged the customer experience by assessing rollout and adoption programs, reviewing the extent to which the vendors support their largest enterprise customers and by surveying users identified as reference customers by the vendors. Given the large volume of customer inquiries, we also incorporated the views we derived from these interactions. Vendors earned higher marks for an excellent track record of successful implementations. We looked for relationships, products and services/programs, including RPA process consulting services that support client success with the products.
- From an operations point of view, we assessed how the organization to meet its goals and commitments. Factors included the quality of the resources, the organizational structure, skills, experiences, programs, systems, underlying infrastructure and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

Completeness of Vision

Gartner analysts evaluate technology providers on their ability to convincingly articulate logical statements about current and future market direction, innovation, customer needs and competitive forces, and how well they map to the Gartner position. Ultimately, technology providers are rated on their understanding of how to exploit market forces to create opportunities for the provider.

Table 2: Completeness of Vision Evaluation Criteria

Evaluation Criteria ↓	Weighting ↓
Market Understanding	High
Marketing Strategy	Medium
Sales Strategy	Medium
Offering (Product) Strategy	High
Business Model	Medium
Vertical/Industry Strategy	Low
Innovation	High
Geographic Strategy	Low

Source: Gartner (July 2019)

We evaluated the vendors' Completeness of Vision by examining customers' requirements for RPA usage and purchasing, and by assessing how the products aligned with these requirements:

- To evaluate vendors' marketing and product strategies, we looked at the narrative that they use to position their products and whether their products adequately address the chosen positioning. We assessed their understanding of the emerging use cases of

RPA and their tactics for dealing with the constraints of RPA. We also considered the way in which the vendor engaged with common personas associated with use of RPA products.

- From a product-offering perspective, we evaluated the critical capabilities of the RPA tool alongside the integration and bundling of other adjacent third-party aspects, such as OCR and machine learning. We evaluated vendors' product innovation and ability to address the trends we expect to see in the RPA market (with their associated weightings and content).
- We also explored the customers' geographic and vertical market strategies and their plans to support the global market. We also examined the ability of the vendor to support a global installed base.

Quadrant Descriptions

Leaders

Leaders in a market combine an insightful understanding of the realities of the market, a reliable record, the ability to influence the market's direction, and the capability to attract and keep a following. In the RPA market, leadership implies an understanding of the demands of the enterprise and the opportunities of adding additional functionality, products and services to the core RPA offerings. Leaders must have demonstrated market-leading vision and the ability to deliver on that vision.

At this point in the development of the RPA market, only three vendors have sustained excellence in both execution and vision long enough to demonstrate effective leadership. With continued growth from vendors in the Challengers and Visionaries quadrants, we expect additional vendors to advance in this direction during the next two years.

Customers should note that a Leader is not always the best choice. A focused, smaller vendor can provide excellent support and commitment to suit individual needs. Other vendors may provide a certain capability – such as enhanced security, and a commitment to specific features or functions – that is important to your organization. These market segments include call center or individual desktop use cases today. This also applied to scenarios when deployed by a service partner in your specific industry market or geography. This more focused type of vendor would not appear as a Leader in the overall RPA market, but, within a specific segment, it may well be treated as such.

Challengers

Challengers in a market excel in their ability to attract a large user following, but this ability is limited to a subset or a segment of the market. For that target audience, Challengers are effectively Leaders, but that specificity presents a barrier to adoption for those

outside that subsegment. For example, in the RPA market, a Challenger may have a strong proven presence or following in attended RPA, but lack traction, commitment or sophistication in the broader unattended RPA market. A Challenger must demonstrate a sustained excellence in execution and must have amassed a significant following, which is hard to achieve in this new and still-evolving market.

Two vendors are rated as Challengers in the RPA market this year, which indicates the relatively early stage of the RPA market itself. These players were not as aggressive in targeting clients as the Leaders were during the past five years, when the RPA market evolved into the mainstream force it has become.

A Challenger can evolve into a Leader if it adopts aggressive, innovative strategies to expand to the full breadth of the target market. It needs to demonstrate exceptional insight in understanding the market direction and retain the capability to deliver on this vision. It may also evolve into a Visionary by sacrificing growth for new features and capabilities that are ahead of the market.

Visionaries

Visionaries in a market are innovators that drive the market forward by responding to emerging, leading-edge customer demands and by offering new opportunities to excel. Typically, these vendors appeal to leading-edge customers and may even have minimal mainstream presence or name recognition. Their ability to deliver sustained and dependable execution in the mainstream enterprise market is not sufficiently tested. The vision of a vendor is not expressed solely in its technological innovation. The vendor must also show insightful understanding of market trends, as well as visionary marketing, sales, along with related product and business management strategies.

In the RPA market, there are three Visionary vendors, including a classic BPM vendor, a machine learning vendor with an RPA offering and a former professional services business. Generally, Visionaries are investing in leading-edge RPA offerings that are not yet readily adopted by mainstream enterprise customers. They support capabilities in their other related tools, such as AI and chatbot capabilities, as well as process management. Visionaries excel in understanding the demands of enterprises that are looking for fully inclusive automation support.

Visionaries should eventually grow to become Leaders. Alternatively, they may decide to limit their target markets to focus on their core competencies, core technologies or existing customers and become Niche Players. They could also develop their specialties to advance in execution and become Challengers.

Niche Players

Niche Players in a market typically specialize in a vertical or functional area. Alternatively, they might have a strong product that is limited to a specific area or subset of the market. The 10 Niche Players in this market either:

- Have focused their attention on related tools – such as process discovery or machine learning – rather than RPA capabilities per se.
- Lack the execution capabilities needed or have limited geographic reach.
- Exhibit a vision that is not market-leading, or focus on a subset of use cases.
- Represent startups making initial forays into the market that have yet to demonstrate success.

Several of these vendors are in transition from other markets. Generally, to progress in this market, they need to focus fully on RPA.

Because of their relatively smaller size, Niche Players can often represent the best choice for a specific category of buyer, or for a particular use case. They typically offer specialized expertise, focused support practices, flexible terms and conditions, lower costs, and greater dedication to a particular market segment and its customers.

Some Niche Players are poised to improve their Ability to Execute and enterprise features allowing them to evolve into Challengers. Others will discover innovative solutions that attract interest beyond their niche segments, emerging as Visionaries. Some will look to strengthen and broaden their businesses to challenge the Leaders. In this fast-evolving and consolidating market, opportunities exist for all comers.

Context

RPA tools enable the enterprise to use a full range of developer personas – citizen developers (most commonly business analysts, as well as business end users); departmental developers; and enterprise IT professionals – and to develop integrations that range from tactical to strategic. Three RPA use cases follow.

Use Case No. 1: Integration Using an Application's UI

Organizations have a plethora of existing systems. Citizen developers and business analysts can quickly extract related data from System 1 and make it available in System 2:

- Data transfer and/or matching between systems. Systems can be legacy systems, enterprise applications or personal productivity tools (e.g., Excel).
- Integration where no back-end integration or API is available – i.e., it is only possible via the application's UI.
- May also apply to scenarios in which automation is later embedded in third-party applications.

Use Case No. 2: Large-Scale Data Migration

An automation extracts data automatically from several systems, using carefully structured scripts to access existing systems and other data sources for a new target system. This involves:

- System migration and (re)configuration involving multiple data sources.
- New systems development involving third-party applications and long-running processes.
- Pruning data from applications to ensure that only the relevant information is used (e.g., only relevant emails, relevant cases, relevant news from news or other evolving websites).

Use Case No. 3: Augment Knowledge Workers

Automations extract information from related documents and systems, shaping it and preparing it for consumption by knowledge workers at the point of need. While interacting with a customer or external stakeholder, data and information from many systems might be required. A knowledge worker typically accesses multiple systems to assemble this material. That worker may also need to interact with many colleagues, each of whom have systems to deal with, which can take a long time and affect the customer's experience significantly. This involves:

- Prechecking and structuring data for easy consumption.
- Provision of contextual information to support the customer case, which may include advice on the best next action, or related scenarios.
- Delivering output to relevant applications depending on the data, or steering actions on a website/chatbot.

Ultimately, this could lead to a situation in which a chatbot is interacting with the customer directly, only handing off to a human knowledge worker when things occur outside its ability to handle directly.

As these different usage scenarios become more complicated, they may need more of the tangential capabilities that are outside of our core definition of the RPA market. These include NLP, machine learning, longer-running processes and OCR integrations/features.

Market Overview

The RPA tool market itself consists of a diverse range of vendors, each with different histories and approaches. This creates confusion in the market – especially in purchasing departments – because each vendor uses seemingly contradictory language to describe its version of:

- The scope of the RPA market.
- Unattended versus attended deployment.
- Crafting of “instructions” for the automation script to run.
- The sorts of integration it supports.
- Any use of AI and/or machine learning capabilities.
- Appropriate price points and supporting licensing agreements and related restrictions.
- The definition of what a “bot” is – some use the term to represent the script itself, others for the software elements that run the script.

The RPA Magic Quadrant displays a diagonal bias from Niche Players to Leaders, representing two market factors:

- **Three dominant vendors in the Leaders quadrant with a relatively large number of new entrants.** These bigger players outspend the rest of the market; the smaller vendors have yet to achieve a strong market presence. Therefore, they have weaker sales volumes. These smaller vendors have to find a route to market. They have a difficult balancing act – developing an effective narrative and

making sales, investing in new product and features demanded by their customers, and scaling their operations across geographies. These vendors become the targets of acquisitive vendors looking to enter the RPA market.

- **The main use cases for RPA solutions are based on integration of data.** As a result, the range of the Depth of Vision dimension across vendors is more restricted, when compared with many other Magic Quadrants. This lack of differentiation has caused hype surrounding RPA and the use of AI. As we've already noted, there are limited opportunities for AI in RPA as it now stands.

However, we feel that investors are perceiving RPA as a key gateway mechanism for organizations to easily consume AI from the major cloud vendors. Whether this will prove to be realistic remains unclear. AI makes more sense within the context of the wider business process and an iBPMS, rather than the confines of a short-running integration with a legacy system.

Market Adoption Trends

Market adoption for RPA is highest in:

- **Organizations with many unconnected applications or a lot of manual rekeying of data.** An organization's propensity to use RPA is directly related to the number of existing applications and the automation tools already in use.
- **Banking and insurance industries.** The finance sector has led the way in RPA for operational processes, with wide adoption across the world's major banks. Insurance, utilities, retail, manufacturing and government industries have rapidly followed.
- **Finance and accounting departments.** This is especially true for finance shared service centers and BPOs that focus on finance and accounting services.
- **The U.K. and the U.S. are the lead geographical regions.** These are closely followed by Japan, Europe, Asia and Australia.

RPA market growth is fueled by the large number of organizations struggling to automate mundane work. There are several contributing factors:

- **For 40 to 50 years, businesses have funded an expensive patchwork quilt of applications.** Few of these systems were ever set up to share data. Those in the business side of the organization have become increasingly frustrated by the slow pace of IT in automating

connections among these systems. They find the long wait times posted by IT departments for the attention of expensive IT resources to respond to their needs incredible.

- **Digital transformation and modernization efforts often stall.** The plans of the business are often held up by an inability to link the transactions and experiences of their customers to the data locked in those legacy applications. That has meant employing more and more humans to handle the work and has inhibited the ability to scale the business.
- **RPA tools appeal due to the apparent speed to value.** This is especially the case when compared with other, slower options, such as developing effective APIs or replacing those legacy applications. Business people now believe that they can develop their own automations without having to rely on IT developers. And given the marketing narrative around “robots” replacing expensive human resources, they also believe that ROI is easy to attain from RPA.

The net result is a tremendous pent-up demand within businesses to move data among applications. RPA has now provided the opportunity to democratize automation and integration. However, without proper governance, this will drive a wave of shadow IT, probably creating as many problems as it solves.

RPA Market Developments

RPA is still relatively small market with a total revenue of slightly less than \$850 million in 2018. However, RPA is the fastest-growing software subsegment officially tracked by Gartner, with year-on-year growth of over 63% in 2018.

The buying frenzy of RPA software is driving sky-high valuations of the biggest vendors — our Leaders are valued at more than \$11 billion between them. UiPath raised its Series A round in April 2017 at a valuation of \$140 million and, most recently, raised its Series D round at a valuation of around \$7 billion. That’s a growth of approximately 50 times in slightly more than two years. And just before we started the research for this Magic Quadrant (in November 2018), its Series C round valued the company at more than \$3 billion. It is not alone: Automation Anywhere was valued at \$2.6 billion in November 2018. Blue Prism, the only publicly quoted RPA company, has a market cap at the time of writing of slightly more than \$1.4 billion.

In November 2018, we saw SAP buy a small French RPA player, Contextor, for an undisclosed sum. And at the beginning of March 2019, Nintex acquired EnableSoft for an undisclosed sum. Although we don’t know the details of these acquisitions, they are likely to represent just a small fraction of the massive valuations applied to the Leaders.

We expect to see:

- **Other mega software vendors establish a position in this rapidly expanding market.** They will do this through acquisition (as SAP did), by adapting the positioning of some of their existing products or by attempting to ring-fence the market with complementary offerings (as IBM has done).
- **More vendors enter the market from adjacent product sectors.** These may include software-testing vendors rebranding, as well as iBPMS and low-code application platforms establishing complementary offerings. For example, Pegasystems did this three years ago with its acquisition of OpenSpan. Other BPM vendors have mostly partnered with RPA vendors, preintegrating them into their broad process automation platforms. Oracle, Bizagi and Appian have all developed offerings that integrate RPA tools into their wider iBPMS coverage.
- **BPO vendors carve out products from their existing operations.** This is effectively what Infosys have done, creating EdgeVerve as a go-to-market vehicle. Datamatics has done the same, with its TruBot offering. Other BPOs and SIs are creating comprehensive offerings that embed the products of one or more RPA technology tools.
- **Further startups attempt to rush in and claim market domination and world-beating product approaches.** The claims of some of these vendors really do need careful examination before jumping on their bandwagon.
- **More major end users develop their own RPA tools with open-source components.** The costs of licensed RPA tools is so high that some large organizations have developed their own RPA approaches. Some of those organizations are now productizing their capabilities and selling the service to their enterprise customers. Although this is not a large proportion of the market, it highlights the relatively high cost of commercial RPA tools.
- **More emphasis on RPA delivered as a service.** RPA is already offered by several of the vendors. And, as is the case with any cloud service, when offered with fair subscription pricing, it becomes attractive to both SMBs and enterprise IT organizations. This enables smaller businesses to gain the same benefits (e.g., better security and scalability) as larger enterprises, together with greater productivity, agility, efficiency and access to continuous innovation.

RPA Market Constraints

This all sounds great for RPA vendors; however, several related factors are affecting the trajectory of the market and its growth. For example:

- **Organizations must manage a relatively high-maintenance burden.** The easy development of integration scripts at the UI level is offset, to some extent, by a constant stream of changes driven by small changes in those third-party applications and systems. This constraint highlights one of the key challenges with RPA deployments – most automations, especially those created by citizen developers, operate at the surface level, rather than the deeper, more sustainable API level. (See “Use iPaaS to Unify Data and Application Integration” and “Navigate Optimal Routes for Process Automation With RPA, iBPMS and iPaaS.”)
- **Organizations must track the individual integrations.** With this democratization of automation comes widespread use in an organization. The problem quickly becomes identifying those parts of the business that will stop working when the UI of a system of record changes. Rather than just reacting to the changes quickly, organizations need a way to predict the implications of a third-party application change, and then synchronize its roll out with changes to affected RPA integrations. Without this sort of functionality built into the tools themselves, the level of technical debt associated with RPA implementation will continue to increase.
- **Comprehensive governance of RPA initiatives is critical.** Governance covers many dimensions – around how decisions are made and how the enterprise coordinates its resources. Most importantly for RPA, organizations need to manage the scope and deployment of RPA. Without effective control over where and how RPA is used, unfettered change will create a bigger mess than any short-term benefit gained from task automation. (See “Develop 3 Levels of Service for Your Center of Expertise to Scale DigitalOps and Robotic Process Automation.”)
- **Many executives interpret efficiency as an opportunity for head count reduction.** However, the reality is that those human resources are usually redirected by their managers toward more-value-adding work. Given the costs associated with most RPA tools, executives can struggle to see the value in the initiative. The beginnings of a customer backlash are starting to appear. In the words of an executive at a global NGO, “We were sold a bag of goods!” The head count reduction never happened, which is what the business case was founded on.
- **Clients struggle to build business cases that do not focus on labor reduction.** With the head count reduction failing to materialize, it becomes difficult to justify the premium prices and long-term commitments demanded by the leading vendors. To overcome this challenge, it’s better to direct the business case toward achieving better regulatory compliance, or switching employees to more value-adding work to build capacity and drive larger financial returns over the long term. For example, the requirement to better know your customer (KYC) in the finance industry or ensure employee onboarding incorporates key training requirements for a given role. This is similar to the requirement to pass data more effectively among systems to onboard suppliers. In the end, the organization can achieve more with the resources it already has.

- **Many organizations do not understand the processes they follow.** They mix up their need for processes with the organization chart and the systems that support existing departments. Moreover, it's hard for them to articulate the tasks within that process, because they are seldom designed or documented. This describes the challenge handled by a related market category – namely, process mining, which translates transaction data into long-running process descriptions (see the “Market Guide for Process Mining”). It's also a source of confusion in the RPA market, where vendors use that language to describe “task mining” – i.e., gathering mouse clicks and keyboard presses to discovering how work gets done within a step.
- **The hype associated with AI and machine learning is mostly unfounded.** Major RPA vendors are busy overpromising and underdelivering on the AI and cognitive narrative. Most products have little in the form of “plug-and-play” machine learning, and computer vision has limited value. None of the RPA vendors come anywhere near the scope of training data available to hyperscale cloud vendors, such as Google, Amazon and Microsoft. Rather than attempting to take them on head on, most vendors are providing better ways to consume megavendors' offerings.
- **The related data is not in a format the RPA tool can easily handle.** This causes problems in scaling the initiative. For example, RPA tools find it difficult to handle images of documents without tools such as OCR, which is then combined with machine learning and/or NLP to extract the correct data. Right now, RPA players are partnering with OCR players, such as ABBYY, ESKER, etc., or they are white labeling or building their own OCR tools around existing technologies. Chat bots are also increasingly being incorporated into solutions, as are AI solutions for interpreting and extracting data.
- **RPA tools deliver more sustainable solutions when combined with an iBPMS.** Given the task-oriented scope of RPA-based automations, RPA handles the integration with legacy applications, whereas the iBPMS manages the long-running business process and related artifacts. Think of it as the iBPMS providing the conveyor belt, coordinating the work of the automations (robots) at points along the production line. Indeed, some of the vendors have already integrated their own iBPMSs with their core RPA tooling – for example, Servicetrace. Others have started with the iBPMS and added RPA functionality (e.g., Pegasystems). Most iBPMS vendors have established partnerships with one or more of the vendors in our Leaders quadrant. (See “Magic Quadrant for Intelligent Business Process Management Suites.”)

Evaluation Criteria Definitions

Ability to Execute

Product/Service: Core goods and services offered by the vendor for the defined market. This includes current product/service capabilities, quality, feature sets, skills and so on, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

Overall Viability: Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

Sales Execution/Pricing: The vendor's capabilities in all presales activities and the structure that supports them. This includes deal management, pricing and negotiation, presales support, and the overall effectiveness of the sales channel.

Market Responsiveness/Record: Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

Marketing Execution: The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word of mouth and sales activities.

Customer Experience: Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.

Operations: The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

Completeness of Vision

Market Understanding: Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.

Marketing Strategy: A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the website, advertising, customer programs and positioning statements.

Sales Strategy: The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service, and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

Offering (Product) Strategy: The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature sets as they map to current and future requirements.

Business Model: The soundness and logic of the vendor's underlying business proposition.

Vertical/Industry Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

Innovation: Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

Geographic Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.

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